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## NORTHERN REGIONAL RESEARCH CENTER

## PUBLICATIONS AND PATENTS

January-December 1979

Agricultural Research  
Science and Education Administration  
U.S. DEPARTMENT OF AGRICULTURE

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SCIENCE AND EDUCATION ADMINISTRATION  
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Organization Directory

Mr. Talcott W. Edminster  
Deputy Director for Agricultural  
Research, SEA-USDA  
Administration Building, USDA  
Washington, D.C. 20250

Dr. H. C. Cox  
Regional Administrator  
USDA-SEA-AR-Western Region  
1333 Broadway, Suite 400  
Oakland, California 94612  
Telephone: (415) 536-4191

Western Region covers Arizona,  
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Idaho, Montana, Nevada, New  
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Dr. E. L. Kendrick  
Regional Administrator  
USDA-SEA-AR-Southern Region  
P.O. Box 53326  
New Orleans, Louisiana 70153  
Telephone: (504) 589-6753

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Mr. Earl R. Glover  
Regional Administrator  
USDA-SEA-AR-North Central Region  
2000 W. Pioneer Parkway  
Peoria, Illinois 61615  
Telephone: (309) 671-7176

North Central Region covers  
Alaska, Illinois, Indiana, Iowa,  
Kansas, Michigan, Minnesota,  
Missouri, Nebraska, North Dakota,  
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Dr. Steven C. King  
Regional Administrator  
USDA-SEA-AR-Northeastern Region  
Room 333, Building 003  
Agricultural Research Center, West  
Beltsville, Maryland 20705  
Telephone: (301) 344-3418

Northeastern Region covers  
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Maryland, Massachusetts, New  
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Northern Regional Research Center  
Agricultural Research  
Science and Education Administration  
United States Department of Agriculture  
1815 North University Street  
Peoria, Illinois 61604

## REQUEST FOR INFORMATION

Results of research investigations at the Northern Regional Research Center are published regularly in the technical literature, and public service patents are secured to cover patentable inventions and discoveries (see page 70). As a convenient guide to our publications and patents, a list is published annually. Further information on any of the developments, as well as earlier technical papers, may be obtained by writing us.

In conformance with the policy of the U.S. Department of Agriculture, Northern Center publications are available to scientists and other specialists, librarians, representatives of the press, and others interested.

Requests for specific reprints should be by number and addressed to the Northern Regional Research

Center. Those titles marked with an asterisk [\*] are not available at the Northern Center for distribution.

Most of the publications are in journals that are available in libraries. Photographic copies of most journal articles on research at this Center can be purchased from the National Agricultural Library of the U.S. Department of Agriculture, Beltsville, Maryland 20750.

No publications will be sent regularly in response to foreign requests unless exchange arrangements have been made with the Director of the National Agricultural Library.

Copies of previous lists of publications and patents are available upon request.

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(<sup>1</sup>University of Missouri, Columbia; <sup>2</sup>University of Florida,  
Gainesville; <sup>3</sup>Southern Grain Insects Laboratory, SEA, USDA,  
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#### UNOFFICIAL PUBLICATIONS

[Listing of publications of the Northern Regional Research Center would not be complete without including some unofficial publications. These listings are by a retired member of the Northern Center staff and are of a public service value from the standpoint of updating of the literature. Reprints are not available at the Northern Regional Research Center for distribution.]

#### High-Temperature Enhancement of $^{13}\text{C}$ -N.M.R. Chemical-Shifts of Unusual Dextrans, and Correlation with Methylation Structural Analysis

Fred R. Seymour,<sup>1</sup> Roger D. Knapp,<sup>1</sup> Stephen H. Bishop,<sup>1</sup> and Allene Jeanes<sup>2</sup>

(<sup>1</sup>Baylor College of Medicine, Texas Medical Center, Houston, Texas; <sup>2</sup>Retired, Northern Regional Research Center, AR-SEA, USDA, Peoria, Illinois)

Carbohydr. Res. 68(1): 123-140. January 1979

#### Structural Analysis of Dextrans Containing 2-O- $\alpha$ -D-Glucosylated $\alpha$ -D-Glucopyranosyl Residues at the Branch Points, by Use of $^{13}\text{C}$ -Nuclear Magnetic Resonance Spectroscopy and Gas-Liquid Chromatography-Mass Spectrometry

Fred R. Seymour,<sup>1</sup> Roger D. Knapp,<sup>1</sup> Edward C. M. Chen,<sup>2</sup> Allene Jeanes,<sup>3</sup> and Stephen H. Bishop<sup>1</sup>

(<sup>1</sup>Baylor College of Medicine, Texas Medical Center, Houston, Texas; <sup>2</sup>University of Houston at Clear Lake City, Houston, Texas; <sup>3</sup>Retired, Northern Regional Research Center, AR-SEA, USDA, Peoria, Illinois)

Carbohydr. Res. 71: 231-250. June 1970

The  $\alpha$ -D-Glucopyranosidic Linkages of Dextrans: Comparison of Percentages from Structural Analysis by Periodate Oxidation and by Methylation

Allene Jeanes<sup>1</sup> and Fred R. Seymour<sup>2</sup>

(<sup>1</sup>Retired, Northern Regional Research Center, AR-SEA, USDA, Peoria, Illinois; <sup>2</sup>Baylor College of Medicine, Texas Medical Center, Houston, Texas)

Carbohydr. Res. 74: 31-40. September 1979

Structural Analysis of Leuconostoc Dextrans Containing 3-O- $\alpha$ -D-Glucosylated  $\alpha$ -D-Glucosyl Residues in Both Linear-Chain and Branch-Point Position, or Only in Branch-Point Positions, by Methylation and by  $^{13}\text{C}$ -N.M.R. Spectroscopy

Fred R. Seymour,<sup>1</sup> Roger D. Knapp,<sup>1</sup> Edward C. M. Chen,<sup>2</sup>

Stephen H. Bishop,<sup>1</sup> and Allene Jeanes<sup>3</sup>

(<sup>1</sup>Baylor College of Medicine, Texas Medical Center, Houston, Texas; <sup>2</sup>University of Houston at Clear Lake City, Houston, Texas; <sup>3</sup>Retired, Northern Regional Research Center, AR-SEA, USDA, Peoria, Illinois)

Carbohydr. Res. 74: 41-62. September 1979

Structural Analysis of Dextrans Containing 4-O- $\alpha$ -D-Glucosylated  $\alpha$ -D-Glucopyranosyl Residues at the Branch Points, by Use of  $^{13}\text{C}$ -Nuclear Magnetic Resonance Spectroscopy and Gas-Liquid Chromatography-Mass Spectrometry

Fred R. Seymour,<sup>1</sup> Roger D. Knapp,<sup>1</sup> Edward C. M. Chen,<sup>2</sup>

Allene Jeanes,<sup>3</sup> and Stephen H. Bishop<sup>1</sup>

(<sup>1</sup>Baylor College of Medicine, Texas Medical Center, Houston, Texas; <sup>2</sup>University of Houston at Clear Lake City, Houston, Texas; <sup>3</sup>Retired, Northern Regional Research Center, AR-SEA, USDA, Peoria, Illinois)

Carbohydr. Res. 75: 275-294. October 1979

## PATENTS

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Biodegradable Film Compositions Prepared from Starch and Copolymers of Ethylene and Acrylic Acid

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U.S. Patent 4,133,784. January 9, 1979

Highly Absorbent Graft Copolymers of Polyhydroxy Polymers, Acrylonitrile, and Acrylic Comonomers

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Extraction of Rubber or Rubberlike Substances from Fibrous Plant Materials

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Substituted Benzodioxan Sweetening Compound

William D. Dick, Jr. and John E. Hodge

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Method for Increasing Solution Viscosity of *Arthrobacter stabilis* Polysaccharides

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Wax Esters of Vegetable Oil Fatty Acids Useful as Lubricants

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Interpolymer Paper Strength Additives

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Production of Homodeoxyharringtonine and Other Cephalotaxine Esters by Tissue Culture

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Method of Preparing Corn Kernel Snack Food and Product Thereof

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